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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/339,869	06/25/99	KOIDE	J 35.C13613

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EXAMINER

TUGBANG, D

ART UNIT

PAPER NUMBER

3729

DATE MAILED: 10/18/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/339,869

Applicant(s)

Koide et al

Examiner

A. Dexter Tugbang

Group Art Unit

3729

☒ Responsive to communication(s) filed on Aug 7, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-31 is/are pending in the application.

Of the above, claim(s) 4 and 16-31 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-3 and 5-15 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5, 7

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 3729

DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of Species A drawn to Figures 1A-1C, 3, 4A-4C, 5, 9 and 10, in Paper No. 6 is acknowledged.
2. Claims 4 and 16-31 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

Drawings

3. Applicants Formal Drawings filed with the instant Application have been approved by the PTO-Draftsperson.

Specification

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Art Unit: 3729

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-3 and 5-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Throughout all the Claims, there exist numerous lack of antecedent basis and lack of positive recitations. For example, in Claim 1, "the mask plate" (line 5) lacks positive antecedent basis.

Also throughout the Claims, there exists ambiguous claim terminology which is unclear whether later recitations of originally recited terms are intended to refer to the originally recited terms. For example, in the preamble of Claim 2, it is unclear if the phrase "an ink jet head" (line 2) is referring to the same "ink jet head" (line 2 of Claim 1) previously recited.

The above are mere examples of ambiguous claim terminology. The Examiner had carefully reviewed all the pending claims in order to particularly point out the above examples of indefiniteness within the claims. Applicants are requested to review all of the claims to correct the above examples of ambiguous claim terminology. The Applicants are reminded that upon amending the claims, this includes newly added claims, that it is the Applicants' responsibility to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Art Unit: 3729

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3, 6-10 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishiwaki et al 5,263,250 (2nd reference on Applicants' IDS, Paper No. 7, dated 8/7/00).

Nishiwaki discloses the claimed processing method comprising: closely contacting a mask plate 8 having at least one opening 8a corresponding to at least one discharge port (nozzles) of a discharge port plate (nozzle plate) of an ink jet head; and forming the discharge port by irradiating plural high energy ultraviolet parallel beams simultaneously through the mask plate (see Figures 2 and 3). The "vertical axis" of the mask plate is broadly read as horizontal optical axis 3' in which the side edges of the mask plate 8, parallel with the optical axis 3', are broadly read as the "circumferential directions" of the mask plate and the X-axis (arrow shown in Figures 2 or 3) is read as the "arrangement direction" of the discharge port.

With regards to Claims 2, 3, 8, 9, and 10, the symmetry of incident beams (shown in Figure 2) clearly indicates that the incident beams are symmetrical, have the same angle, and are equally divided with respect to the optical axis 3'.

Art Unit: 3729

With regards to Claim 7, Nishiwaki discusses bonding the discharge port plate to the ink jet main body at col. 6, lines 64+.

With regards to Claim 15, Nishiwaki further discussed the concept of the excimer laser at col. 3, line 13+.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 5, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiwaki et al.

With regards to Claims 5 and 11, to choose any desired specific angle of irradiation of the incident beams in relationship to the arrangement direction of the discharge port is an obvious matter of design choice, since the Applicants have not disclosed that the claimed angle of 45° solves any stated problem or is for any particular purpose, and it appears that the invention would perform equally well with the various angles of incident beams taught by Nishiwaki.

With regards to Claim 12, the rectangular section of the ink jet head is read as member 12 (in Fig. 3) to be processed by the incident beams.

Art Unit: 3729

11. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiwaki et al in view of Muto 5,548,894.

Nishiwaki discloses the claimed processing method as previously discussed. Nishiwaki does not teach that the discharge port plate is formed of either resin or silicon nitride material.

Muto teaches that forming discharge port plates (nozzle plate 61) can be accomplished by conventional materials of either resin or silicon nitride (see col. 25, line 55 to col. 26, line 16) and it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the discharge port plate of Nishiwaki with such a conventional material of either a resin or silicon nitride.

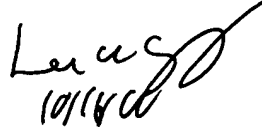
Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dexter Tugbang whose telephone number is (703) 308-7599.

ADT

October 11, 2000


10/11/00
LEE YOUNG
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TECHNOLOGY CENTER 3700